

Prof. Dr. Michael Sattler

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Education

1995 Dr. phil. nat., University of Frankfurt, Germany
1991 Diploma in Chemistry, University of Frankfurt, Germany

Current positions

2007- **Director**, Institute of Structural Biology, Helmholtz Zentrum München, German Research Center for Environmental Health, Munich, Germany
2007- **Professor** (W3) Biomolecular NMR-Spectroscopy, Department Chemie, TU München
2007- **Director**, Bavarian NMR Center (<http://www.bnmrz.org>)
Integrated structural biology of protein complexes; RNA-based gene regulation and structure-based drug discovery

Previous positions

1997-2006 **Group Leader**, Structural & Computational- Biology and Gene Expression Programmes; European Molecular Biology Laboratory (EMBL), Heidelberg, Germany
Structural biology in RNA-based gene regulation: pre-mRNA splicing (Science 2001, 2006), RNAi (Nature 2003) signaling; NMR methods for large protein complexes
1995-1997 **Postdoctoral Associate**, Abbott Laboratories, Abbott Park, USA
Advisor: Dr. Stephen W. Fesik *Structural biology of protein complexes in signaling and apoptosis: Shc-PTB/Trk (Nature 1995), Bcl-x_L (Nature 1996; Science 1997)*
1991-1995 **Doctoral research**, Institute of Organic Chemistry, University of Frankfurt, Germany
Advisor: Prof. Dr. Christian Griesinger *Development of novel multidimensional heteronuclear NMR methods with improved sensitivity for biomacromolecules*

Academic interests

Biomolecular NMR spectroscopy and integrated structural biology of protein complexes; NMR methods; Molecular recognition and dynamics in gene regulation (alternative splicing, non-coding RNAs), peroxisome biogenesis and disease-linked pathways, structure-based drug discovery.

Fellowships and awards

2020 **Erwin-Schrödinger Award**
2017 **Elected Member of the Leopoldina, German National Academy of Sciences**
2017 **Elected Member ISMAR Council** (International Society of Magnetic Resonance)
2014 FEBS National Lecturer Spanish Biochemical Society (SEBB), Granada
2012 **Elected EMBO Member**
2011-2012 Visiting Professorship for Senior International Scientists, Tianjin, China
2005 Professor Invité, Ecole Normale Supérieure, Paris, France
2005 Jean-Francois Lefevre Lecturer in Biophysics, Strasbourg, France

Major institutional responsibilities

2012 – 2020 **Elected member of the DFG Study Section Foundations of Biology and Medicine**
2014 - Coordinator, Cross Program Activity “Structural Biology”, *Helmholtz Association*
2013-2019 **Member Committee Research Infrastructures (Ausschuss Forschungsbauten)** of the *German Wissenschaftsrat*
2012- Board Member, DFG Cluster of Excellence EXC114: CiPS^M
2012 - Steering Committee *Helmholtz Association* Portfolio Program “Drug discovery”

2009-2012 Coordinator Area C, Cluster of Excellence EXC114: Center for integrated Protein Science Munich (CiPS^M)

Co/Organization of international conferences and schools

- 2019 International conference **New Frontiers in Structure-based Drug Discovery**, Florence, Italy, with Christian Ottmann (supported by ITNs AEGIS and TASPPI)
- 2019 CiPSM Cluster of Excellence *Scientific Octoberfest*, TUM, Garching
- 2019 **EMBO Practical Course** “NMR spectroscopy of biological macromolecules”, co-organizer and instructor, biannually since 1999 (25 students and postdocs)
- 2018 International **Helmholtz Drug Discovery Conference** - HDDC 2018, Munich
- 2017 **Keystone Symposium: Frontiers of NMR in Life Sciences**; co-organizer with K. Wüthrich; S.W. Fesik; 170 participants
- 2013 **35th FGMR Discussion Meeting** and Joint Conference of the German, Italian and Slovenian Magnetic Resonance Societies. Frauenchiemsee, Germany, Sep 9-12, 300 participants
- 2008 FP6 CA NMR-Life Workshop *Advances in NMR of Protein and Nucleic Acid Molecular Recognition*, Murnau, Germany (with R. Boelens, Utrecht), 150 participants

Patents

- 2020 EPA No. 20214108.1 *Inhibition of virus protease*
- 2016 PCT/EP2016/080316 *CPAP-Tubulin Module*
- 2016 WO2016038045 *Pyrazolopyridine derivatives and their use in therapy*

Key publications (selected)

>264 journal articles, Researcher ID [A-2407-2012](https://orcid.org/0000-0002-1594-0527), *H*=55 (WoS). ORCID: <http://orcid.org/0000-0002-1594-0527>

1. Kang, HS, Sánchez-Rico C, Ebersberger S, Sutandy FXR, Busch A, Welte T, Stehle R, Hipp C, Schulz L, Buchbender A, Zarnack K, König J*, Sattler M*) *An autoinhibitory intramolecular interaction proofreads RNA recognition by the essential splicing factor U2AF2* (2020) **PNAS**, 117, 7140–7149. doi: 10.1073/pnas.1913483117.
2. Kooshapur H, Choudhury NR, Simon B, Muhlbauer M, Jussupow A, Fernandez N, Jones AN, Dallmann A, Gabel F, Camilloni C, Michlewski G*, Caceres JF*, Sattler M* *Structural basis for terminal loop recognition and stimulation of pri-miRNA-18a processing by hnRNP A1*. (2018) **Nat Commun** 9, 2479. doi: 10.1038/s41467-018-04871-9
3. Dawidowski M, Emmanouilidis L, Kalel VC, Tripsianes K, Schorpp K, Hadian K, Kaiser M, Maeser P, Kolonko M, Tanghe S, Rodriguez A, Schliebs W, Erdmann R*, Sattler M*, and Popowicz GM* *Inhibitors of PEX14 disrupt protein import into glycosomes and kill Trypanosoma parasites*. (2017) **Science** 355, 1416-1420. doi: 10.1126/science.aal1807
4. Hennig J, Militti C, Popowicz GM, Wang I, Sonntag M, Geerlof A, Gabel F, Gebauer F*, Sattler M* *Structural basis for the assembly of the Sxl–UNR translation regulatory complex* (2014) **Nature**, 515:287-90. [[Pubmed](#)] [[Press release](#)]
5. Schlundt A, Heinz GA, Janowski R, Geerlof A, Stehle R, Heissmeyer V*, Niessing D*, and Sattler M*. *Structural basis for RNA recognition in roquin-mediated post-transcriptional gene regulation*. (2014) **Nat Struct Mol Biol** 21, 671-8. [[Pubmed](#)] [[Press release](#)]
6. Mackereth CD, Madl T, Bonnal S, Simon B, Zanier K, Gasch A, Rybin V, Valcarcel J*, Sattler M*. *Multi-domain conformational selection underlies pre-mRNA splicing regulation by U2AF* (2011) **Nature** 475, 408-11. [[PubMed](#)]
7. Tripsianes K, Madl T, Machyna M, Fessas D, Englbrecht C, Fischer U, Neugebauer KM, and Sattler M *Structural basis for dimethylarginine recognition by the Tudor domains of human SMN and SPF30 proteins*. (2011) **Nat Struct Mol Biol** 18, 1414-20. [[PubMed](#)]
8. Simon B, Madl T, Mackereth CD, Nilges M, and Sattler M *An efficient protocol for NMR-spectroscopy-based structure determination of protein complexes in solution*. (2010) **Angew Chem Int Ed Engl** 49, 1967-70. [[fulltext](#)]
9. Corsini L, Bonnal S, Basquin J, Hothorn M, Scheffzek K, Valcarcel J*, and Sattler M*. *U2AF Homology Motif interactions are required for alternative splicing regulation by SPF45*. (2007) **Nat Struct Mol Biol** 14, 620-9. [[PubMed](#)]
10. Lingel A, Simon B, Izaurralde E*, and Sattler M*. *Structure and nucleic-acid binding of the Drosophila Argonaute 2 PAZ domain*. (2003) **Nature** 426, 465-9. [[PubMed](#)]